UNITED STATES PATENT AND TRADEMARK OFFICE

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09/758,354	01/12/2001	Yakov Zimmerman	82281	9306

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _03 August 2004_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under _Ex parte Quayle_, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-15_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-15_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _03 August 2004_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This Action is in regards to the Amendment and Request for Reconsideration

received on 03 August 2004.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, 8, and 10 are rejected under 35 U.S.C. 102(b) as being

anticipated by Wong et al. (U.S. 5,953,347).

a. As per claim 1, Wong et al. teaches generating a model of the multi-protocol

layered network (lines 45-50 of column 1); determines protocol layers (lines 32-33 of

column 1); and maps an overlay including network elements, physical links, logical links,

and association links (line 63 of column 3 through line 4 of column 4 and FIG. 1-16).

b. As per claim 2, Wong et al. teaches displaying protocols on a GUI (lines 9-17

and 43-50 of column 1); and displaying a protocol layer of the model with different

technologies employed in a in visually distinct manners (FIG. 1-16).

c. As per claims 4 and 10, Wong et al. teaches displaying a 3D representation of

overlays of two or more protocol layers of the model on a Graphical User Interface

(GUI) (FIG. 1-16)

d. As per claim 5, Wong et al. teaches distinguishing between alarms generated

at client layer and alarms generated at underlying layers (lines 51-59 of column 1). In

the event of a service failure, Wong implements a recovery action that is initiated in a

hierarchical manner and by nature will be able to distinguish where the service failure

occurred.

e. As per claim 8, Wong et al. teaches a processor because it is inherent that the

Newbridge Networks Corp. Intelligent NetworkStation contains a processor (lines 9-17

of column 1). It is inherent in any computing and/or networking system that a processor

is present for carrying out instructions.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

a. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Wong et al. (U.S. 5,953,347) as per claims 1 and 2 respectively above, in further

view of Mitchell et al. (U.S. 6,628,304).

Wong et al. fail to teach displaying a top view of the overlays of two or more

protocol layers on a GUI. However, Mitchell et al. discloses displaying a top level view

of the network (lines 32-36 of column 20).

One of ordinary skill in the art at the time of the applicant's invention would have recognized that it is quite advantageous for the network management system of Wong to provide means for displaying a top level view of the network. The top level view of FIG. 3 quickly conveys to the user the hierarchical relationships which exists between different elements (lines 11-13 of column 8 in Mitchell et al.). It is for this reason that one of ordinary skill in the art would have been motivated to include a top level view of the network in Wong's network management system as taught by Mitchell et al.

b. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. (U.S. 5,953,347) as per claim 1 above, in further view of Dobbins et al. (U.S. 5,790,546).

Wong et al. fail to teach allowing a selection path in the transmission network by using selection criterion. However, Dobbins et al. discloses determining the best path utilizing a number of constraints (lines 33-34 of column 36).

One of ordinary skill in the art at the time of the applicant's invention would have clearly recognized that it is quite advantageous for the network management system of Wong to find an optimal path through a mesh which satisfies a number of independent constraints (lines 44-45 of column 19 in Dobbins et al.). It is for this reason that one of ordinary skill in the art would have been motivated to allow a selection path in the transmission network by using selection criterion.

c. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. (U.S. 5,953,347) as per claim 6 above, in further view of Dobbins et al. (U.S. 5,790,546).

Wong et al. fail to teach selection criterion from the group comprising: distance of transmission, delay allowed in receiving the transmission, degradation of the transmitted signals, protection constraints, or any combination thereof. However, Dobbins et al. discloses the constraints respectively:

- determination of the location of end systems (line 52 of column 36)

- accounting of each end system's usage of the network based on the number of data packet or byte transmissions (lines 53-54 of column 36)

- quality of service (line 38 of column 36)

- designation of authorized valid connections between first and second end systems (lines 50-51 of column 36).

- including one or more of: (the aforementioned constraints) (lines 32-34 of column 36)

One of ordinary skill in the art at the time of the applicant's invention would have clearly recognized that it is quite advantageous for the network management system of Wong to find an optimal path through a mesh which satisfies a number of independent constraints (lines 44-45 of column 19 in Dobbins et al.). It is for this reason that one of ordinary skill in the art would have been motivated to allow a selection path in the transmission network by using selection criterion.

d. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. (U.S. 5,953,347) as per claim 3 above, in further view of Mitchell et al. (U.S. 6,628,304). In addition to the combination of Wong et al. and Mitchell et al. for claims 3

and 9, Wong et al. teaches displaying a 3D representation of overlays of two or more

protocol layers of the model on a Graphical User Interface (GUI) (FIG. 1-16).

e. Claims 12-13 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Wong et al. (U.S. 5,953,347) as per claim 1 above, further in view of Dobbins et al.

(U.S. 5,790,546).

Wong et al. fails to teach: the protocol layers in the multi-protocol layered

transmission network comprise an upper protocol layer being a section of said network,

operative according to a packet based protocol and an IP protocol. However, Dobbins

et al. discloses: "Data networks today rely heavily on shared medium, packet-based

LAN technologies for both access and backbone connections. The use of packet

switching systems, such as bridges and routers, to connect these LANs into global

internets is now widespread," (lines 40-44 of column 1).

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to have the protocol layers in the multi-protocol layered

transmission network comprise an upper protocol layer being a section of said network,

operative according to a packet based protocol and an IP protocol. "An internet router

must be capable of processing packets based on many different protocols, including

IP, IPX, DECNET, AppleTALK, OSI, SNA and others. The complexities of building

networks capable of switching packets around the world using these different protocols

is challenging to both vendors and users," (lines 44-49 of column 1 in Dobbins et al.). It

is for this reason that one of ordinary skill in the art at the time of the applicant's

invention would have been motivated to have the protocol layers in the multi-protocol

layered transmission network comprise an upper protocol layer being a section of said

network, operative according to a packet based protocol and an IP protocol in the

system as taught by Wong et al.

f. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong

et al. (U.S. 5,953,347) as per claim 12 above, further in view of Dobbins et al. (U.S.

5,790,546).

Wong et al. teaches: the multi-protocol layered transmission network comprises

three protocol layers being three network sections respectively operative according to

three technologically distinct protocols (lines 9-17 of column 1).

g. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Wong et al. (U.S. 5,953,347) as per claim 12 above, further in view of Dobbins et al.

(U.S. 5,790,546).

Wong et al. fails to teach: a plurality of network elements comprises at least two

network elements, each one from said at least two elements being operative in more

than one protocol layer. However, Dobbins et al. discloses: "This is because the

complexities and costs of providing multi-protocol routers increase greatly as

performance needs go up," (lines 10-12 of column 3). Multiple routers are common in

networks such as the one shown in Fig. 1.

It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to have a plurality of network elements comprises at least two

network elements, each one from said at least two elements being operative in more

than one protocol layer. "In one important aspect, the present invention is a new

technology referred to as secure fast packet switching (SFPS). SFPS will provide the

same or better reliability and security as routers and with much greater packet switching

performance, without an increase in cost," (lines 6-10 of column 3 in Dobbins et al.). It

is for this reason that one of ordinary skill in the art at the time of the applicant's

invention would have been motivated to have a plurality of network elements comprise

at least two network elements, each one from said at least two elements being

operative in more than one protocol layer in the system as taught by Wong et al.

Response to Arguments

4.   Applicant's arguments filed 03 August 2004 have been fully considered but they

are not persuasive. The amended claims do not overcome the rejections based on the

cited prior art.

5.   (A) Regarding claim 1, applicant argues that Wong et al. does not speak about

different protocols and/or layers according to different protocols, but just about

"integrated management of multiple network of different topologies", etc.

As to point (A), the applicant's argument that Wong et al. does not speak about

different protocols and/or layers according to different protocols is not persuasive.

Wong et al. discloses: "Newbridge Networks Corporation's 4602/46020

MainStreet.RTM. Intelligent NetworkStation provides **fully integrated network**

management of Newbridge's LAN, 36xx Time Division Multiplexing (TDM), Frame

Relay, and Asynchronous Transfer Mode (ATM) products, with a rich Graphical

User Interface (GUI) showing network topology and network element drawings, real-

time status monitoring and fault management, and full path (service) management and

service recovery capabilities," (lines 9-17 of column 1) which clearly demonstrates

multiple protocols (i.e. ATM, LAN, Frame Relay, etc.) in a single network.

6.   (B) Regarding claim 1, applicant argues that Wong et al. does not determine

protocol layers. The applicant supports this argument by stating: "It is clear to those

skilled in the art that multiple networks can be of the same protocol or protocol layer. If

the protocol layer of the multiple networks is the same (as in all Wong et al. examples),

it is definitely not a multiple-protocol layered network and therefore no (different protocol

layers can be determined therein."

        As to point (B), the applicant's arguments that Wong et al. does not determine

protocol layers is not persuasive. Wong et al. states specifically: "Accordingly the

present invention provides an integrated network management system for multiple

networks of **different topologies** having a hierarchy of different order bandwidth

domains comprising at least one network manager, characterized in that said **network

manager manages the multiple networks and establishes links within a topology

domain** by implementing hierarchical pass-through routing within a higher order domain

in the hierarchy and initiates recovery actions in the event of service failure starting at a

domain with the highest order bandwidth," (lines 28-37 of column 1). In combination

with the response to point (A), this clearly infers that multiple protocols (ATM, LAN,

Frame Relay, etc.) can be used in a single network. As such, links in a topology can be

established which requires protocol determination (inherent).

7.   (C) Regarding claim 1, applicant argues that Wong et al. does not teach any of

the limitations concerning arrangement of the elements and links, which are claimed in

the clause (b)* of Claim 1. *Clause (b) now shown as clause (2) in amended claims.

Applicant also argues that in contrast to Wong et al., in the present application,

the network elements connected by association links between different protocol layers

are integrated elements capable of operating in more than one protocol layers.

As to point (C), the applicant's arguments that Wong et al. does not teach any

limitations claimed in clause (2) of claim 1 are not persuasive. Figure 5 displays

SONET ADM equipment, which "can also be used where a SONET ring provides

DS1/DS3/OC-n transport for the ATM technology domain," (lines 29-32 of column 3).

This clearly shows again that different protocol layers can be used in the Wong et al.

model. Also, the applicant's argument that different types of equipment are

recommended to different network domains (lines 32-39 of column 2) is irrelevant since

it simply discloses alternative switches that can operate under the direction of the 46020

machine.

In response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., network elements connected by association links between different protocol layers

are integrated elements capable of operating in more than one protocol layers)

are not recited in the rejected claim(s). Although the claims are interpreted in light of

the specification, limitations from the specification are not read into the claims. See *In

re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As such, the figures

in the prior art show the physical and logical layers, and the association links between
them.

8.   (D) Regarding claim 2, the applicants argue that Wong et al. does not teach
displaying protocols on a GUI and displaying different technologies in visually distinctive
manners.

As to point (D), the applicant's argues that Wong et al. does now show an
overlay of one protocol layer with different technologies employed therein and displayed
in visually distinctive manners. The examiner respectfully disagrees. It is the view of
the examiner that Wong et al. teaches, in a service management view, displaying on a
GUI an overlay of one (or more) protocol layer of the model (Fig. 1-16), with different
technologies employed therein being displayed in visually distinctive manners. Wong et
al. clearly states that the different technologies of each layer are visually distinct:
"These technology domain planes allow the 46020 network manager to **view and
manage** 3/1/0, 3/1, and 3/3 **networks as distinct and separate networks**, while at the
same time, providing integration of these domains (see FIG. 3). This hierarchical
management provides for the most efficient service recovery, with recovery actions
starting at the highest-order bandwidth domain.

The 3/1/0 domain 3 may have a DS3 link that is a DS3 path 18 switched in the
3/3 domain, thereby bypassing the 3/1 network. This arrangement is illustrated in FIG.
4.

The concept of Hierarchical Pass-Through Routing can also be extended to
provide integrated management of SONET ADM equipment. This is shown in FIG. 5,

where a SONET ring 20 in SONET domain 25 provides DS1 transport for a 3/1/0

domain 3. In FIG. 5, DS1 paths 21 provide the DS1 links for the 3/1/0 domain 3.

This Hierarchical Pass-Through Routing management of SONET ADM

equipment can also be used where a SONET ring provides DS1/DS3/OC-n transport for

the ATM technology domain.

The **integrated management of different technology domains** can be

accomplished through the same 46020 which is managing the Newbridge network

elements (see FIG. 6). In this mode, the different domain networks 1, 3, 10 can be

represented as separate views on a graphical user interface (GUI). The domains are

managed by a 46020 network manager, for example, running on Sun workstation 30

connected to the domains via links 31 and associated with database 32," (lines 13-41 of

column 3).

9.   (E) Regarding claims 4 and 10, applicant argues that Wong et al. does not

disclose displaying protocol layers of the model and the association links between the

logical link and its associated transmission path.

As to point (E), the applicant's arguments claim that Wong et al. does not

disclose displaying protocol layers of the model and claim the connections links

between the domains in Wong et al. connect elements operating under the same

technological protocol. The examiner respectfully disagrees. The arrows parallel to the

DS1 links (items 6 of Fig. 1) clearly show the association "link" between the separate

layers.

10.   (F) Regarding claim 5, applicant argues that Wong et al. does not teach

distinguishing between alarms generated at a client protocol layer and alarms

generated at any of the underlying protocol layers.

As to point (F), the applicant's arguments claim that Wong et al. teaching of

initiating a recovery action in a hierarchical manner starting from a domain with the

highest order bandwidth does not mean that any alarms will be distinguished between

network domains. The examiner respectfully disagrees. In the event of a service

failure, the triggering of a recovery action is construed as triggering an alarm. The

recovery action will be able to locate the service failure and thereby distinguish between

the alarms generated at a client protocol layer and those generated at any of the

underlying protocol layers.

11.   (G) Regarding claim 8, applicant argues that Wong et al. does not mention a

processor contained in the system.

As to point (G), the applicant's arguments claim that Wong et al. does not specify

a processor. The applicant respectfully disagrees. It is inherent in any computing

and/or networking system that a processor is present for carrying out instructions.

12.   (H) Regarding claims 3 and 9, applicant argues that Mitchell et al. does not

discloses protocol layers.

As to point (H), the applicant's arguments claim that neither Wong et al. nor

Mitchell et al. disclose protocol layers. The applicant respectfully disagrees. Wong et

al. has been shown to include protocol layers in the discussion of point (A). The

combination of the top view of the network in Mitchell et al. and the system of Wong et

al. would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention and is therefore considered obvious.

13.   (I) Regarding claim 7, applicant argues that neither Wong et al. nor Dobbins et al.

describe/apply their solutions to different protocol layers.

As to point (I), the applicant's arguments claim that neither reference disclose nor

suggest any "protection constraint" or combination with it. The applicant's arguments

are not persuasive. The claim discloses a Markush group in such that if all or some

elements of the Markush group have been disclosed in the prior art, the claim cannot be

considered novel under 35 U.S.C. §102 or §103. Dobbins et al. discloses other

elements of the Markush group and therefore the claim cannot be considered novel, in

this case, under 35 U.S.C. §103(a).

Response to Amendment

14.   Examiner acknowledges amendment to the abstract, which now appears to be in

conformance with MPEP § 608.01(b). Objection has been withdrawn.

15.   Examiner acknowledges amendments to claims 1, 5, and 7 for correction of

minor informalities. Objections have been withdrawn.

16.   Examiner acknowledges amendments to claims 1 and 8 for corrections

pertaining to 35 U.S.C. §112 second paragraph. Rejections have been withdrawn on

these issues.

Conclusion

17.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

18.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Michael Meucci at (571) 272-3892. The examiner can

normally be reached on Monday-Friday from 10:00 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jack Harvey, can be reached at (571) 272-3896. The fax phone number for

this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those

under 35 U.S.C. 132 or which otherwise require a signature, may be used by the

applicant and should be addressed to [michael.meucci@uspto.gov].

All Internet e-mail communications will be made of record in the application file.

PTO employees do not engage in Internet communications where there exists a

possibility that sensitive information could be identified or exchanged unless the record

includes a properly signed express waiver of the confidentiality requirements of 35

U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published

in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG

89.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

/JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100